No. 113.

In Senate,

February 24, 1829.

REPORT

Of the commissioners appointed under the act of April 15, 1828, relative to the construction of a rail-road from the city of Boston to the Hudson river.

TO THE LEGISLATURE OF THE STATE OF NEW-YORK.

The undersigned, commissioners appointed by virtue of the act, entitled "An act to facilitate the construction of a rail-road from the city of Boston to the Hudson river," passed April 15, 1828,

RESPECTFULLY REPORT:

That immediately after their appointment an exemplified copy of the law, defining the duties and powers of the undersigned, was transmitted to the Governor of Massachusetts, with assurances of cheerful co-operation in all measures calculated to advance the important object contemplated by the act. The reply of the Governor is herewith communicated, from which it will appear that the attention of the New-York commissioners was directed to the examination of two routes, as connected with the Massachusetts surveys,

" one by the northerly part of the town of West Stockbridge, and the other through Adams, and by the valley of the Hosick."

Soon after the receipt of the communication from Governor Lincoln, the undersigned appointed William C. Young, Esq. as their Engineer, and proceeded to make the explorations preliminary to minute surveys.

Commencing at the points suggested by Governor Lincoln, two routes were represented to be practicable; the northern route terminating at the city of Troy, and the southern route (dividing at Chatham) terminating either at Albany or Hudson. As the report of the commissioners was expected to embrace all the information that would be deemed necessary in guiding the legislature in their choice of the alternatives embraced in the act above referred to, it was thought advisable to have complete surveys made of each route suggested by the Massachusetts commissioners.

With that object in view, two routes have been minutely surveyed, and the elevations and distances computed; the one commencing at the city of Troy, passes through the the town of Pownal, in Vermont, and connects with the northern line, surveyed by direction of the Massachusetts commissioners, in the town of Adams. The other commencing either at Albany or Hudson, unites with the southern route at the town of West Stockbridge. The lines surveyed from Albany and Hudson, unite at the town of Chatham. For the results of these particular surveys, the commissioners refer to the report and maps herewith presented. They would be insensible to the able efforts of an accomplished and efficient engineer, if they did not acknowledge his valuable services, in enabling them to make a full, and they trust a satisfactory, statement to the legislature.

As by the act from which the undersigned derive their powers, the state is pledged either to construct the rail-road

from the boundary line of Massachusetts to the Hudson river, at their own expense, or to grant authority to others for its execution, in case the state of Massachusetts shall make the residue of the road. It does not devolve on the commissioners to point out the advantages and profits contemplated by the construction of the rail-road, any further than to aid the legislature in making their election.

Soon after the appointment of the New-York commissioners, they were requested to furnish information with regard to the nature and extent of trade between the Eastern seaboard and the Hudson river, that would probably be affected by this new channel of conveyance.

The letter of David Henshaw, Esq., one of the members of "the board of internal improvement," established in Massachusetts, with the answers of the New-York commissioners, are herewith transmitted. And to which, together with the reports of that board, they refer as containing all the information that has been acquired on the subject.

The undersigned, with a view to a more full and satisfactory understanding of the comparative advantages of the several routes surveyed by them, requested their engineer, after his maps were completed, to proceed to Boston for the purpose of making such personal explanations as might be deemed important to the Board of Internal improvements of Massachusetts. Three of the members of that board, had previously met the commissioners of New-York, at Albany, and exhibited to them their maps and notes of survey.

Subsequent to the return of Mr. Young, a letter, (herewith communicated) was received from Nathan Hale, Esq. Vice-President of the Massachusetts Board, enclosing their resolutions with regard to the western termination of the rail-road.

It will be perceived that the city of Albany has been designated by them, as the preferable point of intersection with the Hudson river, and that they have embodied their reasons for such preference in their resolutions.

The undersigned are not insensible to the effect that local residence, and the influence of personal considerations, sometimes produce on the minds of public agents; but in yielding their assent to the resolution of the "Board of Internal Improvements of Massachusetts," with regard to the termination of the route, they have not forgotten, that the greater part of the important work is to be completed at their expense, and that a proper regard ought therefore to be paid to their interests.

A computation of the probable expense of that part of the rail-road, which will pass through this state, has been made by Mr. Young, and accompanies this report.

In connection with the minute estimates made under the direction of the Massachusetts Board, the undersigned believe that all necessary facts are hereby communicated, to enable the legislature to make an election in pursuance of the act of 1828.

The facilities afforded by the local position and commercial character of Boston, for acquiring information with regard to the art and expense of constructing rail-roads in foreign countries, together with the active intelligence of the "Board of Internal Improvements," have relieved the undersigned from duties, which otherwise would have been arduous and expensive. To their elaborate and satisfactory report, the undersigned refer for minute and accurate information on this interesting subject.

All which is respectfully submitted.

EBENEZER BALDWIN,
OLIVER WISWALL.

Communication from O. Wiswall.

The commissioners within mentioned, have differed in opinion with regard to the extent of their duties and powers, as specified in the act from which they derive their appointment.

With a view to more general accommodation, the undersigned would prefer three terminations of the route, at the points on the Hudson river, from whence the surveys of the commissioners have been made, to wit: Troy, Albany and Hudson; the route to Troy being continued from Greenbush to that city, and the route to Hudson, from the town of Chatham.

OLIVER WISWALL.

February 23*d*, 1829.

OBJECTIONS

To Report of Commissioners, by G. Tibbits, Esq.

To Ebenezer Baldwin and Oliver Wiswall, Esquires:

GENTLEMEN—

Dissenting as to the terms of a report to the legislature, from a majority of the commissioners appointed in pursuance of the act of 15th of April last, entitled "An act to facilitate the construction of a rail-road from the city of Boston to the Hudson river," it may be proper for me briefly to state the reasons for that dissent, and to ask that they may be submitted to the legislature with the report.

By the 7th section of the act, it is made the duty of the commissioners "to report to the next legislature the result of their examinations; their opinion as to the most eligible route; and generally, such information as may be obtained, and may be deemed useful to the legislature in relation to the *practicability, utility* and *effect* of the contemplated improvement."

By the terms *practicability, utility* and *effect*, I understand the legislature to mean, not only that the commissioners should inquire as to the possibility, or comparative facility, of constructing the road. But, secondly, as to its probable cost, and as to the probability of its returning by means of tolls, income adequate to the interest of the out lay for its construction, repairs, superintendence, &c. And thirdly, as to the effects and consequences, which would be likely to result from it, to the commerce, industry and prosperity of the people of this state.

The legislature, I consider, wanted information more especially upon the second proposition, in order thereby to be the better able to determine whether the interests of this state would be best promoted by making that part of the road falling within its limits, at the expense of this state; or by the incorporation of a company for that purpose; or by allowing the state of Massachusetts to construct it, pursuant to the provisions of the act of 15th of April.

For information upon these several important particulars, the report which has been approved by a majority of this board, refers the honorable the legislature to the estimates, calculations, and opinions of the board of directors of internal improvements of the state of Massachusetts as contained in their late report to the legislature of that state, and, as I conceive, with the unlimited and unqualified sanction of this board.

There not having been any work of the kind of any considerable extent completed in this country, these gentlemen, in common with ourselves, could not have had any safe data tested practically here, on which to base their calculations of the probable cost of constructing the road: And therefore while feeling, as I certainly do towards them, sentiments of great respect and consideration, may not be prepared to give to their estimates full and unqualified approbation on some points where they may and I think have been mistaken.

Their estimate of the entire cost of the road, is $16,434.77 per mile, or $3,254,876.10, the distance being 198 miles, 6 chains; but which may be called, as it no doubt will be, when made, at least 200 miles. It would have been nearer the result, in my judgment, to have added 50 per cent. to the estimated amount of its cost.

The Baltimore and Ohio rail-road, over a country considered by the proprietors to be very nearly like this, and but 50 miles longer, was estimated at the commencement to cost $20,000 per mile.

Our Erie canal was, after the most careful surveys by able engineers, and after making the most liberal allowances, as it was supposed for every thing, including $75,000 for tools and accommodations for the workmen which were never purchased, estimated to cost but..... $4,881,731
or less than $13,500 per mile. And the Champlain canal, ... 750,000

Making together, ... $5,631,731

They are now known to have cost more than ten millions of dollars, or more than $23,000 per mile, while no man at the commencement could point out a single specified item as estimated too low. I cite the errors in calculating the cost of our canals, not imputing blame to any one; but to shew what great errors may be made by the ablest men with best intentions, in estimating the cost of canals, rail-roads, and works of this kind.

In England the cost of constructing rail-roads may be more correctly estimated; though even there, great errors have sometimes been made, and never an instance that I have heard of, where the actual cost fell short of the estimate.

The average cost of constructing rail-roads with two sets of tracks, like the one now in contemplation, is put by the celebrated civil engineer Thomas Tredgoold, page 141, and by M. I. Sganzin, a highly celebrated French civil engineer, at £5,000 sterling, or $22,224 per mile. M. Sganzin says, page 189, at least $23,000 per mile. Now as labour and iron, the two most considerable articles of expense, are much less in England and France than they are here; and as the

track upon which this road is to be made, is by no means free of difficulties or expensive places to make, I consider it would be unsafe to put the estimate at any thing less than from 22 to $25,000 per mile; or to disregard authorities so concededly respectable as those cited above, or admonitions derivable from the experience of older countries. The celebrated Stockton and Darlington rail-road in England, with two setts of tracks, cost more than £10,000 sterling per mile, or more than $44,444 per mile. The Manchester and Liverpool rail-road now making, was estimated to cost £12,000 sterling per mile, or $53,334 per mile.

It is not, however, in the estimated cost of the construction of the road, that I conceive our Boston friends to be most in error; but in regard to the quantity of transportation expected to be done on it; and as to the income expected to be derived from tolls, especially between the cities of Boston and Albany.

It will be seen by their report, page 21, to be expected that transportation may be done on the road as cheap as on any of the canals in this country.

That agricultural products, like flour, may be carried on the road from Albany to Boston, paying one dollar per ton tolls, or thereabouts, (being half a cent per ton per mile,) as low or lower than by the present mode by water. That the road will have the preference over all other channels of conveyance between Albany and Boston, and the whole transport. See page 22.

As I am unable to find authorities warranting such expectations, I consider that I should be wanting in duty to pass them over without notice, or to give to them the sanction of my approbation.

The celebrated Thomas Tredgoold, before referred to, in his valuable Treatise on rail-roads and carriages, page 169, and M. I. Sganzin, of France, in his elementary course of civil engineering, page 179, show the comparative beneficial effects produced by rail-roads, compared with canals, or the comparative ease with which loads may be moved or transported, all things considered, on canals and on level rail-roads. They both agree that the most beneficial velocity for moving loads, both on rail-roads and canals, by horse power, is at the rate of from $2\frac{1}{2}$ to 3 miles per hour, and at these rates of moving, three tons may be transported on a canal by the same moving power with which one ton can be moved or transported on a rail-road.

N. Woods, another celebrated English civil engineer, in his practical treatise on rail-roads, though varying a little, is not materially different. See Woods, page 305. See postscript A. at foot.

Applying these data, that is, three tons transported on a canal at the same cost as one ton on a level rail-road, it follows, that transportation, allowing no tolls, or the same tolls on each, must be three times dearer on a rail-road than on our canals, for like distances.

The rate of transportation on our canals, on nearly all products charged with $1\frac{1}{2}$ cent per ton tolls per mile, is double the tolls, or three cents per mile, and exclusive of tolls, $1\frac{1}{2}$ cent per mile per ton, and equal to transporting from Albany to Boston or back, 200 miles, to $6, including tolls, and to $3 not paying tolls. On a level rail road, applying the principles of Mr. Tredgoold and Mr. Sganzin, it must be $18, the like tolls included; or $9, exclusive of tolls. On paying the tolls suggested in the report, page 23, of one dollar per ton for the whole distance, or half a cent per ton per mile, it would be $10 per ton, and at least three times dearer

than by the present mode of transportation by water. But if put at only double the freight by water, on what grounds can we calculate that the road will have the whole transport.

The present rates of transportation in vessels by water, from Troy to Boston, or back, is $3 per ton. On iron, marble, granite, or the like, not over $2 50, or on light bulky articles, $4 per ton, with half one per cent insurance, making an average of about $3, insurance included. Freight from Troy to New-York are seldom over $1 50 per ton, all charges included, and $2 per ton at the highest—and frequently much less from New-York to Troy. With these data before us, it is unreasonable, in my judgment, to expect to "secure to the rail road the carriage of all the flour between Albany and Boston," or any part of it.

I refer to Mr. Tredgoold again, pages 141, 142, to determine whether the tolls to be expected from the road, including all the transportation calculated upon, intermediate between the two places, can reasonably be expected to produce an income adequate to the payment of the interest on the out lay for making the road, repairs, superintendence, &c.

After stating, p. 141, that the average cost of a proper rail-road, with double setts of tracks, like the road proposed to be built in this case, will not be less than £5000 per mile, (the present rate of interest being assumed at 3½ per cent. per annum,) "the amount of annual rent per mile, ought to be £117 nearly"; and after stating further in illustration, and to shew the quantity of transportation required to make the undertaking a saving one, he states, page 142: "The preceding examples will afford some idea of the quantity of tonnage necessary to render a rail-road a profitable speculation; and to make the extent of trade more easily understood by using a measure as evident to the sense as possible, it will require 142 wagons, carrying three tons each, to pass the whole length of the line every day, to pay the tolls,

at one penny per ton per mile. But only 71 wagons will be required to pay the tolls, at two pence per ton per mile. Two pence per ton per mile, ought to be the utmost that should be charged for tolls on the cost of a rail-road; and therefore, whenever a greater tonnage than 200 tons per day cannot be estimated upon with tolerable certainty, there will be very little chance of a rail-way being a profitable speculation."

Now, if it be required that 200 tons should pass "the whole length of the line every day," or upon every section of the road daily, or 73,000 tons yearly, paying two pence sterling per ton per mile tolls, in order to make it a saving concern, it will require that 400 tons should in like manner pass on it daily, or 146,000 tons yearly, paying one penny sterling per ton per mile; or 180,246 tons, paying $1\frac{1}{2}$ cent per ton, as upon our canals; or 540,740 tons, paying half a cent per ton; or one dollar per ton for the whole distance, as estimated to be paid on flour and all other commodities, from Albany to Boston: See page 40 and page 23 of the Report.

	Tons.
The estimated tonnage by the Boston report, to be secured to the rail-road, is, to and from Albany, Troy and Boston, ...	28,902
From the county of Berkshire, now going to and from Albany, Troy, Hudson and Hartford, ...	18,475
From Hampden county, now principally to and from Hartford, ...	12,857
Hampshire county, to and from Hartford and Boston, ...	13,689
Franklin county, principally to Boston, ...	4,929
Worcester county, now going principally to Providence and Boston, the one half of 27,951 tons, or, ...	13,975
	92,827

Also to and from the adjoining states, Vermont on both sides of the Green Mountains, New-Hampshire and Connecticut, ...	10,000
	102,827
But as this estimated transportation is all of it, excepting the first item, to pass over only a part of the line, and to be taken up and put down at the several intermediate places along the line, one-third part of the aggregate amount may be deducted on that account, or,.....	34,275
Leaving	68,552

As to the first item, if the whole of it is not to be deducted in consequence of the transportation being dearer on the road than by water, it will be conceded, no doubt, that the estimates for this item were made up from, and based upon the estimated quantity of commodities of all sorts, coming from and going to all the ports and places, as well westerly as easterly of Cape Cod in Massachusetts, including Rhode-Island; and including that no inconsiderable portion of it, brought from all the small ports and fishing places direct to the New-York market, and about as cheap as it could have been carried to Boston, and from New-York brought to Albany and Troy by our return sloops, at the most moderate freights; and including also another considerable portion of it, brought direct to Albany and Troy by eastern vessels belonging to the several small ports in the eastern states: And of which estimate, taken altogether, not more than one quarter or one third came from Boston; so that it will be a liberal allowance to say one

third of this trade was with Boston; therefore deduct two-thirds of that item, or,..... 19,268

49,284

Add to this the two dollar tolls to be paid by each passenger carried in stage wagons on the road, as estimated in the report, p. 38, it will be found to be equal to the transportation of 15,650 tons of other commodities paying tolls at the rate of $1\frac{1}{2}$ cent per ton per mile, and less than one penny sterling per ton per mile,..... 15,650

And we have for the rail-road..... 64,934

tons, or about one-third the tolls required by Mr. Tredgoold to make it a safe or saving undertaking.

It may, moreover, still be matter of doubt whether the trade and transportation which has hitherto centered in the several places mentioned in the estimates, other than Boston and Albany, will be drawn off from those places to Boston, by means of the rail-road, as is expected: and more especially from places not more distant than the nearest point on the rail-road. But very little of that part of it, expected to come from the west side of the mountains of Vermont, I should think, can be reasonably counted upon, as it would have to be carried, the most of it, farther, as the road is now likely to be laid, to get to the road, than to the Hudson river. And it is questionable whether some further deduction, rather than additions, ought not to be made from the estimates, for those places near where the road is to cross the Farmington and Blackstone canals.

But every thing in this country, in relation to rail-roads, their usefulness and productiveness, as well as the cost of their construction, are at best but matters of speculation, to be tested by time and experience. As it regards the road now under consideration, if called upon to advise in which

of the three modes mentioned in the act of 15th April last, it would be advisable for the state to comply with its engagements, I should have no hesitation in advising that the construction of the road should be left to the enterprise and powerful resources of the state of Massachusetts.

While dissenting, for the reasons above stated, from the estimates of the Massachusetts gentlemen, as well in regard to the probable cost of constructing the road, as in regard to the capacity of rail-roads for cheap transportation, compared with canals or tide water navigation; and as to the probable quantity of transportation to be done on the road, and of income expected from it, I have still to assure you, that I recollect with great satisfaction, the harmony and good feeling which has pervaded our intercourse in performing the duties confided to us; and remain, with sentiments of great respect for yourselves and for the Massachusetts gentlemen, with whom we have acted,

Your friend and
Most ob't. servant,
GEORGE TIBBITS.

P. S. *See Tredgoold, table* 6, *page* 169.

The same moving power will move on a canal, at the rate of $2\frac{1}{2}$ miles an hour, 500 tons; and on the rail-road 115 tons, or more than $4\frac{1}{2}$ tons on the canal, to one on the rail-road. At the rate of 3 miles an hour, 243 tons; and on the rail-road 92 tons, or $2\frac{1}{2}$ tons on the canal for one on the road. At the rate of $3\frac{1}{2}$ miles an hour, 153 tons; and on the rail-road 82 tons, or more than $1\frac{3}{4}$ tons on the canal, to one on the road.

M. Sganzin states, page 179, "from calculations it appears, that one horse will draw 10 times as much upon a railway as upon a good road. And upon a canal a horse will draw 30 times as much, when the horse moves at the rate of

$2\frac{1}{2}$ miles an hour; consequently a canal is the most advantageous mode of conveyance."

Mr. Woods states at the foot of his table, No. 9, p. 305, —"From this we find, that when the rate of speed is about two miles an hour, the quantity of goods which a horse will convey upon a canal, is three times that which he can convey upon a rail-road."

I find moreover, upon inquiry, from a number of respectable persons concerned in transportation upon the canals, that the usual rate of moving with loads, is at the rate of about 2 to $2\frac{1}{2}$ and 3 miles an hour. The day and night boats calculate to go, with relays of horses, 60 miles in 24 hours; which is $2\frac{1}{2}$ miles an hour; but allowing for passing the locks and detentions by passengers, &c. it may be 3 miles, or thereabouts.

The foregoing being comparisons of capacities of level rail-roads with canals for transportation, further allowances are to be made in favour of canals and against the rail-road in question, on account of its numerous and considerable deviations from a level.

Rail-roads, however, being greatly superior to any other mode of land transportation, will no doubt facilitate transportation from the interior of Massachusetts, both to the Hudson and New-York on the one hand, and Boston on the other; and the anticipations of our Boston friends will probably be realized in regard to stage passengers.

Among other considerations for the construction of this road, it is presumed to have been intended by the legislature that it should be so located, if practicable, as to afford to the cities of Hudson, Albany and Troy, a participation in its ad-

vantages. And the undersigned has to express his regret that a unanimous recommendation of this board could not be obtained, to make the northern termination of the road at the city of Troy, thence continuing along the eastern shore of the Hudson to opposite Albany, to take in the trade of that city, thence following the route recommended by the Boston directors, with a branch from Chatham to the city of Hudson.

GEORGE TIBBITS.

DOCUMENTS

Accompanying commissioners' report.

To Messrs. Baldwin, Tibbits and Wiswall,
Rail Road Commissioners.

Gentlemen—

The accompanying maps and profiles, descriptive survey and estimates, are the result of surveys made under your particular direction, which are respectfully submitted by

Your obedient and humble servant,
Wm. C. YOUNG,
Engineer.

Albany, 6th February, 1829.

BOSTON AND HUDSON RIVER RAIL-ROAD SURVEYS.

In connecting the several routes, in order to a comparison of distances, it will be necessary to premise, that the route adopted from Boston westerly, passes through Worcester and West Springfield, crossing the mountain in the town of Washington, to a point on the Housatonic river in the town of Dalton; from whence it was determined that practicable routes could be obtained, north through the valley of the Hoosac to the state line at Pownal bridge, and south through Pittsfield to the state line at West Stockbridge: a continuation of which routes within the state of New-York, to the Hudson river, was made the object of the following reported surveys.

Routes Surveyed.

After a topographical examination of the country, from the designated points in the state line, a particular survey

was made from Pownal bridge along the valley of the river into the town of Hoosac, where it was left, crossing Shingle-hollow, or Potters-hill into Pittstown, and passing along the drowned lands of Brunswick, and the valley of the Poesten-kill to the Hudson river at the city of Troy.

And from the state line at West Stockbridge, through Canaan, Chatham, Kinderhook and Stuyvesant to Schodack landing; thence along the Hudson river, through Castleton and Greenbush to the ferry-wharf opposite the city of Albany.

A branch from this route at Chatham Four-corners, passing the Ghent meeting-house, through the Squampomic and Claverack vallies to the city of Hudson, was also surveyed: maps and papers of which are herewith submitted.

A partial survey of a route from Pownal bridge, following the valley of the Hoosac river to Viele's bridge, thence along the general direction of the Schaghticoke and Lansingburgh road, was made and abandoned, in consequence of a number of large ravines, and the impracticability of locating the road, on inclinations within the prescribed limits.

The survey of Lebanon valley route was also abandoned after a particular survey of Lebanon hill, the elevation and formation of which, from Whiting's pond to Lebanon meeting-house, offered insurmountable obstacles to the construction of a rail-road on the proposed plan.

Remarks Explanatory of Maps.

The full red line designates the trace of the survey and proposed location, and on which is placed the distance in miles from the Hudson river.

The brush lines or shade, should convey some general idea of the formation of the country: the different degrees of slope of the side hills must be estimated from the difference of shade.

The full red line on the profile, designates the practicable inclination upon which the road might be constructed, and from its relative situation to the black and shaded line, the extent of excavation and embankment, and the facilities of crossing streams should be estimated.

The horizontal dotted lines, commence and terminate with the changes of inclination; the distance and difference

of level between these changing points, are in black and red figures placed in the right angles of the dotted lines.

The larger size of red figures are the stations of reference in the description of the survey.

The scale of horizontal distances, 10 chains to the inch, and of elevations, 40 feet to the inch, rendered necessary a form in sheets; each embracing a section of 3 miles, excepting where it became convenient to show the relative situation of important points.

DESCRIPTIVE SURVEY.

Northern or Troy Route.

Beginning at the wharves at the foot of Jacob-street, in the city of Troy, conveniently located for canal and river business, the survey was conducted through Jacob to the head of Grand Division-street; thence in a distance of 20 chains, to a point in rear of Mr. Tibbits' house, and head of rapid slope, an ascent of 100 feet was made, requiring a circuitous route on the side hill, increasing the distance 1 mile to overcome this elevation, on an inclination, rating 80 feet per mile, "the maximum limit."

From this point the profile commences, and the survey continues over sloping ground and 16 chains of precipitous rock bank, (from 8 to 25 feet too high) to Viele's bridge, $2\frac{1}{2}$ miles from the wharf, (including the circuit) ascending at the rate of 80 feet per mile.

From Viele's bridge the course lies along the valley of the Poesten-kill 5 miles, to the junction of a brook near Milltown, which was then followed $1\frac{1}{2}$ miles to what may be termed the foot of the drowned lands, near Daniel Simmons'.

The irregularities in the formation of the country along the valley of the Poesten-kill, rendered it impossible to trace a probable line of location on a preliminary survey; therefore, after determining the distance and difference of elevation between the extremes of this section, and comparing the rate of inclination (41.69 feet per mile) with the several points noted during the progress of the survey, it is presumed a location may be made along the side-hill, generally above the immediate irregularities of the bank of the creek, on an inclination varying between 30 and 60 feet per mile.

Some extent of bluff rock, steep gravel bank and clay side-hill would have to be encountered through a distance of 5

miles from the bridge: the profile will show the relative situation of the bed of the creek to the average inclination of this section.

From the foot of the drowned lands, after crossing and re-crossing the small brook bordered by a few chains of low marsh, a point of gravel and loam land on a Mr. Eddy's farm, was struck and followed along the margin of the hard and meadow land, passing a summit swamp near Apperly's inn, and crossing a small brook, where the road now crosses, to the rising land that borders the east side of a swamp, and head waters of the Tomhannoc creek, where through the Bornt farms, the surface is somewhat irregular and stony 1 mile to Indian brook; from whence sloping ground was followed along the valley of a small brook passing Carr's or Kelley's summit, on to a plain, crossed to Holsted's brook, after passing which, along a side-hill, crossing a valley and brook north of Holsted's farm, and the creek at Norton's mill, to its north bank, $8\frac{1}{2}$ miles; having ascended in this distance from the foot of the drowned lands 48 feet, which might be equally distributed, making the inclination ascending at rate of 5.65 feet per mile.

Throughout this section there are no obstacles to the greatest facilities in constructing a road, except in passing Norton's creek 32 feet above the mill dam, by a short bridge and embankment.

From this a gravel ridge was followed a few chains, and the outlet of a swamp 15 feet too low, passed over to a side-hill, followed to Pittstown summit, $\frac{1}{2}$ mile from Norton's mill; having ascended at the rate of 40 feet per mile, and allowed for this summit to be reduced 10 feet by cutting through a narrow ridge.

From Pittstown summit, passing a little to the west of the white meeting-house at the Four Corners, the survey was continued over a broken country, crossing a valley near Sherman Eddy's, 15 chains wide, and from 15 to 25 feet too low, to Wadsworth's inn, $2\frac{1}{4}$ miles on a level.

Thence ascending at the rate of 16 feet per mile, $\frac{3}{4}$ of a mile, passing over a broken and rocky surface, crossing Warren's mill dam, and re-crossing the brook, near and above the head of the dam, to the foot of the hill and termination of the 21st mile.

From where the maximum rate of ascent directed the trace of the survey over sloping ground, generally of a re-

gular surface, 3 miles and 64 chains to near the summit of Shingle-hollow, which was then crossed, by ascending 7 feet in 16 chains, (to Lawton's meadow and summit, 862 feet above the plain of Troy) and descending 14 feet in the following 24 chains to station No. 3, and head of rapid descent.

From whence the maximum rate of inclination descending, directed the line of the survey 5 miles to Mr. Reynolds' house in Petersburgh, passing along a side-hill, crossing a brook at McCoy's mill, and descending its valley to the termination of the 27th mile on Owl creek, above Hayne's tavern; from where through a distance of $1\frac{1}{2}$ miles, to opposite Mrs. Shaw's inn, the location would be along and much elevated on the side of a broken rock, clay and gravel bank, or steep side-hill, offering a considerable obstacle to the construction of a road, which, together with $\frac{1}{2}$ mile of steep rock side-hill, from Bussey's to Bovey's ravine, embrace the difficulties of this section.

From Reynolds' house passing through Petersburgh and over a plain on a level $\frac{1}{2}$ mile, crossing the little Hoosac river 14 feet above its bed, 1 chain wide to its north bank.

Thence ascending at the rate of 4.80 feet per mile over a sloping and somewhat irregular surface $2\frac{1}{2}$ miles, to the state line and level with top of monument stone at Pownal bridge, $33\frac{1}{4}$ miles from Troy, and elevated from it 460 feet.

Should the difficulties in overcoming the Troy hill, suggest the expedient of an inclined plane to be operated upon by a water power, and located along the side hill and bank, at the falls in the creek below Viele's bridge, passing the cotton factory, 175 feet might be overcome by such means, and in the adoption of this plan, the total distance of this route would be 32 miles.

Southern, or Albany Route.

Beginning at the Albany and Greenbush ferry-wharf, assuming the level of the main street of Greenbush, ten feet above the common tides, as suitable to the river section, the survey was conducted through an unimproved part of the village, to a rise of hard meadow land, which was crossed to the foot of the hill, thence along the divison line between the high and low lands of the Hudson river, 10 miles and 19 chains to station 57, $1\frac{1}{2}$ miles above Schodack landing.

This line consequent to such localities, is somewhat indented, which irregularities of surface, however, become very light in a line at the foot of the slope, barely above the interval land; and as the inclinations to favor such a location, would be imperceptible in their variations from a practicable level, this location at the foot of the slope, keeping a hard foundation in the clay and gravel soil should be adopted.

The streams crossed offer no obstacle to the construction of light and permanent bridges, elevated four feet above the high tides; Murderer's creek on the 7th mile, would require a bridge about 200 feet long, in order to guard against the rapid flow of water from the hills during heavy rains, when its south bank is flowed.

In passing some clay and gravel bluff points, some extent of river or facing wall would be required, not having to guard against, however, the influence of freshets, as those of the Hudson are lost near and below Albany.

From station 57 an inclination (in order to leave the valley of the Hudson river) was commenced, by ascending at the rate of 26.18 feet per mile 55 chains, passing along some distance near the top of a stony, clay and gravel bank of the river to station 45, in an orchard near Mr. Johnson's house.

Thence ascending at the rate of 66.66 feet per mile 48 chains, passing two ravines, otherwise a favorable surface, to station 32 near Ten Eyck's house.

From this on a level 15 chains along the foot of the hill to station 27, in rear of Schermerhorn's store—Schodack Landing.

From where the maximum rate of inclination ascending directed, the line surveyed along sloping ground 1 mile and 8 chains over a surface broken by two narrow ravines, (otherwise favorable) to the bench mark on the top of the hill, and bank of flat-land brook.

Thence crossing the brook and ascending at the rate of 66.66 feet per mile over the natural inclination of the surface, and in the direction of a small brook 1 mile and 10 chains to station 22, at the foot of the Pine Ridge in Stuyvesant.

From station 22 sloping ground was followed over a very regular surface in a directon inclining to the summit of the ridge, and ascending at the rate of 14.40 feet per mile 50

chains to its summit near Elijah Castle's, which I have allowed to be reduced 10 feet.

From this summit a descent was made at the rate of 46.14 feet per mile 35 chains to the termination of the 15th mile, in a summit swamp covered with a growth of large timber, along the dividing ridge of which, a stiff clay foundation may be obtained.

Thence passing over a little rising ground and a brook south of Jack's house, from where a small brook was followed to station 65, at Van Volkenburgh's, 1 mile and 26 chains, on a level; a light undulation on this section would admit the location on the natural surface, excepting a short distance in crossing the brook near Jack's house.

From Van Volkenburgh's the course lies along and above the bank of a ravine, ascending at the rate of 36.71 feet per mile 67 chains to station 79, near T. Harder's house, where the ravine was conveniently crossed, and ascending over a regular surface at the rate of 67.79 feet per mile 43 chains, to the post-road on the Kinderhook plains near Mr. Pultz's house.

From this the plains were crossed by ascending 6.40 feet in 32 chains, and descending 6.40 feet in the following 40 chains, to station 101, near Mr. Pinnier's house; thence a direct distance to the bank of the Kinderhook creek, was found too short to admit the limited inclination; which rendered necessary a circuit increasing the distance one-fourth of a mile, passing along a side-hill descending 53 feet in 72 chains to the north bank of the creek, and level 7 feet above the top of a perpendicular rock bank 33 feet above the bed of the creek, near and below the mouth of the Voletia creek, 1½ miles north of the village of Kinderhook. The bridge to pass this creek will admit of a permanent stone construction, by springing a semicircular arch of 40 feet radius from the rock bed of the creek.

After crossing the creek the survey was conducted to opposite Wild & Co's. factory, 40 chains, ascending at the rate of 16 feet per mile, along the bank of the creek, requiring a heavy rock excavation; thence 68 chains level to station 60; thence 1 mile and 29 chains, continuing along the bank of the creek, over an irregular surface, ascending at the rate of 11 feet per mile, to Klina-kill bridge at Peter Bain's, where the Klina-kill would require to be crossed by a 60 foot bridge, 11 feet above its bed; and 4 chains of flats

7 feet below the level, requiring a construction to admit a free passage of water during extreme floods.

From this a plain was passed over, ascending at the rate of 24.72 feet per mile 55 chains, to station 71.

Thence ascending Humphrey's brook over a lightly undulating surface, at the rate of 34.54 feet per mile, 1 mile and 8 chains, to the termination of the 24th mile.

From whence it became necessary to ascend at the rate of 77.31 per mile, 1 mile and 69 chains, passing along sloping and stony ground to Humphrey's factory; thence crossing a lightly undulating field to the side-hill on the north side of Humphrey's pond, followed to its head, and to station 10 at the junction of the Hudson route on the Union turnpike, half a mile south of Groat's, at Chatham Four-corners.

From this point, the course lies along the Stenakill and its branch, from Kellogg's summit: the first 1 mile and 66 chains is over a somewhat irregular surface, passing in rear of Groat's Inn at Chatham Four Corners, to station 197, on a level.

From station 197, an ascent was made, at the rate of 70.25 feet per mile, 78 chains to Dean's mill, passing over some difficult ground, in 10 chains of steep grave land stony side-hill, 14 feet above its foot, and 15 chains of precipitous rock bank, 30 feet above the bed of the creek, and averaging 10 feet too high.

From Dean's mill, the survey was conducted along the road, on a level 29 chains to station 165; thence ascending at the rate of 49.28 feet per mile one mile and 32 chains, passing over the lightly irregular bank of the creek, to Dorr's clothing works; thence continuing along the bank of the creek, 1 mile and 66 chains, ascending at the rate of 14.24 feet per mile, to a road and bridge near Mr. Row's.

From this, the natural inclination of hard meadow land was passed over, ascending at the rate of 28.30 feet per mile 65 chains to road and bridge at Crandell's, sen.

Thence along the bank of the creek to turnpike and brook, having ascended 53 feet and passed over the first ½ mile of low and hard ground, leaving the main branch of the creek, from Whiting's pond to the east.

From this, a direct line was taken to and passing Crandell's Inn, ascending at the rate of 72 feet per mile 1 mile and 31 chains over a regular surface to Mr. Cady's white house: from where the rate of ascent became 65 feet per mile,

2 miles and 64 chains, to Kellogg's summit: the first ¼ mile of which is along the valley and stony bank of the brook. The remaining distance is over a very regular surface.

From Kellogg's summit, the direction of a small brook was followed, over a stony and rock surface, lightly irregular, descending at the rate of 34.40 feet per mile, 1 mile and 13 chains to station 19, on the point of a gravel ridge.

Thence the road may be made level, 2 miles and 17 chains to the state line, passing over a favorable surface, with the exception of crossing two brooks, bordered by a few chains of low marsh.—Total distance, 40 miles and 70 chains.

A variation from this line on the last sheet was particularly surveyed, passing Mr. Douglas's house, and crossing the brooks below their junction, having to encounter a rock side hill, together with some excavation and embankment, offering perhaps a less obstacle than the low ground on the first described route.—Total distance, 40¾ miles.

From a very recent opportunity of examining the result of surveys made in the fall of 1827, by Mr. Baldwin of Massachusetts, I am of opinion that a variation from this route between Castleton, 8 miles below Albany, and Chatham Four Corners, may be preferable, inasmuch as it shortens the distance 2½ miles.

The obstacles to leaving the river at Castleton, are greater than at Schodack, 3½ miles below. They may be overcome, however, at a less expense than the cost of 2½ miles of rail road. In adopting the Castleton route, the total distance will become 38¾ miles, and Kellogg's summit, the greatest elevation above the river, 980 feet.

Hudson Route.

The plain of Hudson, and level of the ground at the Presbyterian church was found to be 67 feet above the wharves, and 13 chains from Front-street, requiring an inclination 5 times greater than the maximum inclination on other parts of the route, to communicate between those points.

From the church, the survey was conducted through Partition-street, and the upper part of Union, crossing Warren-street, near and above the Public square, 1 mile to station 260, at the junction of the roads above the furnace, having ascended 80 feet from the church.

Allowing a location on an inclination of 80 feet per mile, a portion of Partition-street would be found too low, and

Warren-street, where crossed, 15 feet too high, requiring a heavy excavation through a distance of 15 chains of clay.

Continuing from the junction of roads, and ascending at the rate of 22 feet per mile, 29 chains, over a surface favorable to the construction of a road, to the Albany turnpike and summit.

Thence in a southerly direction, crossing the Union turnpike, and through a lightly undulating field, descending at the rate of 16.55 feet per mile, 58 chains to the west corner of a wood lot; from where the rate of descent became 52.57 feet per mile, 35 chains to the west bank of the Claverack creek.

In crossing the Claverack, (the bed of which is $1\frac{1}{2}$ chains wide,) a construction would be required 8 chains long, to allow the free passage of a current of four feet water, covering the low flats during heavy freshets. A location seven feet above the flats, would admit a construction secure from the influence of floods.

From the creek, an ascent was made along sloping ground, at the rate of 69.33 feet per mile, 30 chains to station 226; from where the natural inclination of a plain was passed over, ascending 30 feet in 1 mile, to station 213, north of the village of Claverack, and from where it would be required to cut through a rise 8 feet too high to admit a level from this, 43 chains to station 204, on the plain south of the village.

From this, the course lies across Meesick's summit, over an undulating surface to station 174, on the hill above Gen. Van Rensselaer's mills. The first 44 chains of this section is ascending, at the rate of 80 feet per mile, to Meesick's summit, allowed to be reduced 12 feet, the latter 1 mile and 22 chains is represented level, requiring some excavation and embankment.

The cutting down of this summit, and other excavation and embankment, may be rendered unnecessary, by allowing some undulations of moderate inclination in the road.

From station 174, the survey was continued over ground moderately sloping to the creek, and ascending at the rate of 25.64 feet per mile, 78 chains to junction of roads, at G. Miller's house; from where, ascending at the rate of 5.88 feet per mile, passing over a favorable surface, 3 miles and 32 chains to Peter Pulver's; thence continuing over a favorable surface, ascending at the rate of 10.98 feet per mile, 2 miles and 22 chains to station 84 in road, above Holsopple's inn; thence

along the road, ascending at the rate of 28.18 feet per mile, 1 mile and 16 chains to the Ghent meeting-house.

From the meeting-house, a gentle slope at the foot of a hill was followed, crossing and continuing on the west bank of a brook, passing Doctor Pugley's house, over a stony and regular surface, ascending at the rate of 68 feet per mile, 60 chains to the termination of the 15th mile ; thence ascending at the rate of 35.88 feet per mile, 1 mile and 56 chains, leaving the sources of the Claverack, and crossing the Klina-kill, 75 feet wide, and 15 feet above its bed, near and below the present road bridge ; thence continuing to Z. Coffin's house.

From whence, the course of the Union turnpike was followed 1 mile and 24 chains, ascending at the rate of 16.92 feet per mile, to the junction with the Albany route, at Chatham Four Corners.—Total distance, 18 miles, and elevation from the Hudson wharves, 450 feet.

INCLINATIONS AND DISTANCES RECAPITULATED.

FROM TROY TO STATE LINE AT POWNAL BRIDGE.

	Distance in Miles and Chains	Ascending	Descending	Rate per mile.	Remarks.
From foot of Jacob, and level of River-street, to Viele's bridge,	2.40	200	.....	80	An inclined plane might be substituted on this section.
Thence to near Daniel Simmons' and foot of drowned lands,	6.40	271	.....	41 69	Presumed to be practicable between 30 and 60.
" " Norton's saw-mill, Pittstown,	8.40	48	.....	5 65	Norton's brook crossed 32 feet above water in dam.
" " Pittstown summit,	40	20	.....	40	This summit to be reduced to 10 feet.
" " Wadsworth's tavern on Hoosac road,	2.20	Level.	Level.	.....	Over a broken surface.
" " head of Warren's dam and termination of 21st mile,	60	12	.....	16	Rocky and irregular surface.
" " a cross road in Shingle Hollow,	3.61	304	.....	80	Over sloping ground; lightly irregular.
" " Lawton's meadow and summit,	16	7	.....	35	Large stone and springy, 862 feet above Troy.
" " Station 3, and head of rapid slope,	24	.....	14	46 66	" " " " " "
" " Mr. Reynold's house at foot of hill, Petersburgh,	5	.....	100	80	2 miles of this is over steep and broken bank and side hill.
" " east bank of Little Hoosac river,	40	Level.	Level.	.....	Over hard meadow land and cross river.
" " state line at Pownal bridge,	2.40	12	.....	4 80	Level of top of monument stone, 460 feet above Troy.
Total distance,	33.24				
An inclined plane at Troy shortens this 1¼ miles, leaving	32.4				
Distance from Pownal bridge, to junction in Dalton,	33.33				
Total distance to Dalton,	65.37				

FROM ALBANY TO STATE LINE AT WEST-STOCKBRIDGE.

From Albany ferry wharf at Greenbush 10 feet above common tides, to station 57 above Schodack,	10.19	Level.	Level.	.....	Very slight inclination will favor the location on this section.
Thence to station 45, in orchard near Mr. Johnson's,	55	18	.....	26.18	
" " 32, near Ten Eyck's house,	48	40	.....	66.66	Cross two ravines.
" " 27, Schodack landing,	15	Level.	Level.		
" bench on bank of flat land brook, top of hill,	1.08	88	.....	80	Cross two narrow ravines, side hill.
" station 22, foot of Pine-Ridge,	1.10	75	.....	66.66	
" summit of Pine-Ridge near Elijah Castle's,	50	9	.....	14.40	This summit to be cut down 10 feet.
" termination of 15th mile, in summit swamp,	35	.....	18	41.14	
" Van Volkenburgh's,	1.26	Level.	Level.		
" station 79, near J. Harder's,	67	30.75	.....	36.71	
" " 87, post-road, Kinderhook,	43	36.44	.....	67.79	
" " 93, summit on Pine-Plains,	32	6.40	.....	16	
" " 101, near Pinnier's house,	40	.....	6.40	12.80	
" north bank Kinderhook creek,	72	.....	53	58.66	Level 40 feet above bed, 33 of which is perpendicular rock.
" opposite Wild & Co's. factory, on bank of creek,	40	8	.....	16	
" station 60, on bank of creek,	68	Level.	Level.	.....	Some extent of rock excavation.
" Klina-Kill bridge, near Peter Bain's,	1.29	15	.....	11	Along near foot of slope.
" station 71, on 23d mile,	55	17	.....	24.72	
" " 53, and 24th mile and Stubble-Ridge,	1.08	38	.....	34.54	
" junction of Hudson route, near Chatham,	1.69	144	.....	77.31	Sideling and some rock, and good building stone.
" station 197, on bank Stena-Kill,	1.06	Level.	Level.		
" Dean's mill,	78	68.50	.....	70.25	This section presents the greatest obstacle met with in this route, in the rock excavation.
" station 165,	29	Level.	Level.		
" Dorr's clothing works,	1.32	69	.....	49.28	The banks of the creek will add a considerable to the item of excavation, the cutting down of which, however, is an easy operation.
" road and bridge at Rowe's house,	1.66	26	.....	14.24	
" Crandell's Sen.	65	23	.....	28.30	
" turnpike and brook, Canaan,	1	53	.....	53	
" station 46, near Mr. Cady's,	1.31	100	.....	72.07	
" Kellogg's summit, Canaan,	2.64	182.14	.....	65.05	900 feet above river.
" station 19, on point hill,	1.13	.....	40	34.40	
" state line, West-Stockbridge,	2.17	Level.	Level.	.....	Level of old road in crossing line.
Distance from Albany to state line, by way of Schodack,	40.70				
" by way of Castleton, and the alteration by Douglass' 2.50 less,	38.20				
" from state line to junction at Dalton,	18.3				
" from Albany to Dalton,	56.23				

FROM HUDSON TO CHATHAM FOUR CORNERS.

From Front-street 37 feet above the wharves to the Presbyterian church,	13	37			
Thence to station 260, at Junction of roads, above furnace,	1	80	.....	80	
" " 254, summit in Albany turnpike,	29	8	.....	22.07	
" " 2248, corner of wood lot,	58	.....	12	16.55	
" Claverack creek, below the Columbia bridge,	35	.....	23	52.57	
" crossing creek and valley,	8	Level.	Level.	.....	Bridge full width of valley, 7 feet above low flats.
" station 226,	30	26	.....	69.33	
" " 213, near Claverack village,	1	30	.....	30	
" " 204, on plain, south of the village,	43	Level.	Level.	.....	A short cut of 8 feet to obtain this level.
" " 194, Mesick's summit,	44	44	.....	80	This summit to be cut down 12 feet.
" " 174, on hill in rear of Gen. Van Rensselaer's,	1.22	Level.	Level.	.....	An inclination on this section will admit the summit at Mesick's to be passed over.
" " 158, in road at G. Miller's,	78	25	.....	25.64	
" " 111, at P. Pulver's on 11th mile,	3.32	20	.....	5.88	
" " 84, in road above Holsopple's inn,	2.22	25	.....	10.98	
" Ghent meeting-house,	1.06	26	.....	24.18	
" station 58, and termination of 15th mile,	60	51	.....	68	
" Z. Coffin's,	1.56	61	.....	35.88	Cross Klina-Kill below road bridge.
" junction with Albany route at Chatham,	1.24	22	.....	16.92	Total elevation above wharf 450 feet.
" state line at West-Stockbridge,	15				
" junction in Dalton,	18				
Total distance from Hudson to Dalton,	51				

Recapitulation of Inclinations and Distances.

Northern or Troy Route.

11	miles	and	24	chs.	at the rate of			80	ft. pr. mile.
7	"	"	24	"	"	from	40 to 50	"	
0	"	"	16	"	"	"	30 to 40	"	
0	"	"	60	"	"	"	10 to 20	"	
11	"	"	00	"	"	"	1 to 10	"	
2	"	"	60	"	level.				
33	"	"	24	"					

Southern or Albany Route.

1	mile	and	8	chs.	at the rate of			80	ft. pr. mile.
4	"	"	18	"	"	from	70 to 80	"	
5	"	"	5	"	"	"	60 to 70	"	
1	"	"	72	"	"	"	50 to 60	"	
1	"	"	67	"	"	"	40 to 50	"	
2	"	"	8	"	"	"	30 to 40	"	
2	"	"	15	"	"	"	20 to 30	"	
5	"	"	17	"	"	"	10 to 20	"	
16	"	"	20	"	level.				
40	"	"	70	"					

Hudson Route.

0	miles	and	13	chs.					
1	"	"	44	"	at the rate of			80	ft. pr. mile.
2	"	"	29	"	"	from	70 to 80	"	
3	"	"	74	"	"	"	60 to 70	"	
2	"	"	67	"	"	"	40 to 60	"	
7	"	"	7	"	"	"	20 to 40	"	
15	"	"	7	"			under 20	"	
33	"	"	1	"					

Total distance from Troy to Dalton, 65 miles and 37 chains.
" " " Albany to " 56 " 23 "
" " " Hudson to " 51 "

ESTIMATE *of the probable cost of a double rail-road from Albany to the state line at West Stockbridge,* $40\frac{3}{4}$ *miles on the plan of continuous trench-walls, railstone and plate rails.*

For one stone bridge, semicircular arch 40 feet radius, (Kinderhook)	$4,875
5 bridges, equal to 400 feet long, with stone piers and abutments,	2,306
$3\frac{1}{4}$ miles grubbing, 30 feet wide,	1,950
15 culverts, 4 feet radius,	3,000
19 culverts, 2 feet radius,	2,280
27 square culverts,	1,350
35 passing places over common roads,	700
2,000 cubic yards facing wall,	2,000
33,000 do do rock excavation,	23,100
120,000 do do extra embankment,	18,000
75,000 do do extra excavation,	7,500
forming the ground to the proper slope and inclination, after the particular obstacles are removed, and where the bed of the road is along the general surface, having to overcome the light irregularities, $1,500 per mile,	61,125
Total cost for excavation, embankment, bridges, culverts, &c. of $40\frac{3}{4}$ miles,	$128,186
Total expense for grading per mile,	$3,121
Add for trenches, trench walls, &c.	1,956
railstone, cut, drilled and set,	7,064
iron plates, with holes and nails,	2,552
Total per mile,	14,693
Add 10 per cent for a contingent fund, to be particularly applied to superintendence, forming horse path and drawing the trenches,	1,469
Total cost per mile,	$16,162
Total cost for the section within the state of New-York,	$658,601

It is presumed that much reliance can be placed upon the stability of this mode of construction, and that the estimates will cover the cost of its faithful execution.

Wm. C. YOUNG.

DOCUMENTS

Referred to in the accompanying report of the commissioners.

(Copy.)

Worcester, Massachusetts, May 14, 1828.

EBENEZER BALDWIN, ESQ.

SIR,—I have had the honor to receive and to lay before the board of directors of internal improvements of this commonwealth, your communication of the 7th inst. covering an exemplified copy of the act of the legislature of the state of New-York, in relation to the proposed rail-road, from the city of Boston to the Hudson. The enlightened and liberal spirit of your government, seconded by the efficient labors of its commissioners, are looked to for that encouragement and co-operation which will give success to the accomplishment of an enterprise promising the most important results to the interests of both states.

At present, the board of commissioners of Massachusetts must be engaged in the completion of examinations and surveys *east* of Connecticut river, which were commenced the last year. They have determined, however, as soon as practicable to resume the explorations *west* of the river, and to examine further and more accurately two routes towards the line of New-York, one by the northerly part of the town of West Stockbridge, and the other through Adams, and by the valley of the Hoosac. The continuation of these routes to the Hudson, they would now respectfully submit to your observation, with the suggestion which they beg leave to make, that the survey and examination of them, by *your board* need not wait the opportunity which will be necessary here to reach the points of intersection through the long line of survey in Massachusetts to the boundary of the state. Should it be in your power to commence your surveys, assuming the points of intersection on the line between the states in the course of the routes proposed, it would be

particularly agreeable to us, as the direction of our surveys *westward* might be influenced by the results to which you would probably arrive previous to our passing the Connecticut.

We solicit the honor of a free communication on the subject, and shall seek the indulgence of apprising you, from time to time, of our views and the progress we make in the work with which we are charged.

With sentiments of most respectful consideration,
I have the honor, &c. to be
Your obedient servant,
LEVI LINCOLN.

(Copy.)

Boston, Dec. 1, 1828.

EBENEZER BALDWIN, ESQ.
Chairman of the Com. on Rail-roads,

SIR—I take this occasion on the part of the board of directors for improvements by rail-roads in this state, to acknowledge the courtesy of your board in requesting your engineer, Mr. Young, to exhibit to us in this city, the plans and profiles of his surveys, and to communicate to us the valuable information acquired by him respecting the several routes which he has surveyed. He has given us very full and satisfactory explanations of the face of the country, and the facilities and obstacles presented by the several routes, to enable us to judge of the practicability of extending within the limits of your state, those which have been surveyed under our direction.

At a meeting of our board, held on Saturday last, the question of a choice of routes was fully considered; and after a comparison of the advantages and disadvantages of each, according to the best of our judgment, votes were passed expressing a preference of that leading to Albany, and instructing Mr. Baldwin, our engineer, to make his estimates of the cost of constructing the rail-road to the New-York state line, on that route. A copy of these votes I enclose.

You will add to the obligations already conferred on us, if you will authorise and request your engineer to furnish us with copies of his plans and profiles of the survey from

Albany to the line of this state, the expense thereof to be charged by him to our board. Any information of the results of our investigations, which you may wish to possess, we will cheerfully communicate. We hope to have our report in readiness, before the session of our legislature, on the 1st Wednesday in January, and will take the earliest opportunity of forwarding to you a copy.

Respectfully
Your very
Obedient servant,
NATHAN HALE,
Vice-President.

(Copy.)

At a meeting of the directors of internal improvements by rail-roads, held at Boston, Nov. 29th, 1828, the following proposition was adopted:

A committee of this board having conferred with the board of commissioners of the state of New-York, at Albany, in reference to the several routes surveyed under their direction, from the eastern boundary line of that state, to the cites of Troy, Albany and Hudson, and this board having examined the plans and profiles of those surveys, submitted to them by Mr. Young, the engineer of that board, and heard the full and satisfactory explanations made by him, and having also examined the surveys made by Mr. Baldwin, the engineer of this board, from Dalton by the valley of the Hoosac river to the eastern boundary of the state of New-York, and from Dalton through Pittsfield and Richmond to the western boundary of this state, and thence to Albany.

Voted, as the opinion of this board, that Albany is the preferable point for the termination of the western rail-road, presenting the advantages of a greater market, a shorter distance from Boston, a less change of level in the line of the road, and equal facilites for the construction of the road.

Voted, that Mr. Baldwin be requested to make his estimates of the cost of the rail-road as far as the boundary line of the state of New-York, on the route leading to Albany.

Attest,
NATHAN HALE.
Vice-President.

(Copy.)

Boston, May 9, 1828.

DEAR SIR—I see by the papers that your are appointed by the acting governor of your state, one of the commissioners of the Boston and Hudson rail-road. The directors of internal improvements in this state, have that subject now under consideration, and are prosecuting the necessary surveys between here and the Connecticut.

They wish to obtain information as to the amount of merchandize, produce, &c, transported from Albany and other places near there, to Boston, and from Boston to the Hudson. Messrs. Davis & Center of your city are concerned, I believe, in the forwarding business, and would be able, I presume, to give information on this subject. Some persons similarly circumstanced in Troy and Lansingburgh, could give the like information, as to those places. Would it be asking for too much of your time to collect from those gentlemen, the information they are able to give on this subject? if not, the directors would feel obliged if you will collect the information, and forward it as early as practicable.

We want to know the number of tons transported from each of all of those places to Boston, annually, designating, as far as practicable, the kinds of articles; the average time it takes to perform the voyage from Albany to Boston, and the average cost per ton, for transportation; and any other information that you may think useful in this undertaking.—The engineer has just completed surveying a route from this to Springfield, which is found very favorable for the construction of the road. A more northerly route will soon be explored; and I hope before long, this all important enterprise may be commenced and completed. When it shall have been finished, Albany will be as near to Boston, in time and cheapness of communication, as it is to New-York; and I should not be surprised if it were to enable Albany to rival the latter city in opulence and trade.

I am, &c.

DAVID HENSHAW.

E. BALDWIN, ESQ. *Albany.*

(Copy.)

Albany, June 12, 1828.

To David Henshaw, Esq.

Dear Sir—Since I had the honor of receiving your letter of the 9th ultimo, requesting me, in behalf of the directors of internal improvements in Massachusetts, to furnish information "as to the amount of merchandize, produce, &c. transported from Albany and other places near there, to Boston, and from Boston to the Hudson," I have used every exertion to comply with your wishes.

As I was compelled, however, to rely in a great measure on the voluntary aid of commercial gentlemen, who at this season of the year have but little leisure to devote to matters not immediately connected with their business, my answer to your communication has been delayed longer than I had anticipated. Perhaps this delay may not be a matter of regret, as it has enabled me to extend the range of inquiry to some subjects not particularly specified by you, and which may yet have some bearing on the main object in view.

At a meeting of a number of our most respectable and intelligent citizens, I stated the contents of your letter, and to ensure the greatest possible accuracy in my answer, suggested the propriety of appointing committees, composed of gentlemen particularly conversant with different branches of business, who should report to a general chairman on the matters confided to their examination.

This course was adopted, and I have now the pleasure to communicate to you the result in the annexed schedules.

Schedule No. 1 contains a statement of the number of vessels, with the amount of tonnage employed in the coasting trade between Albany and the eastern seaboard during the year 1827. This statement was compiled by me from the books of Mr. Edward Brown, dock-master, and can be relied upon for its accuracy. I have perhaps embraced in the table some parts that would not be affected by the contemplated rail-road; the error however is on the safe side, as you can easily make such deductions as may suit your views. Subjoined to the table of 1827, is a statement of vessels with their tonnage, employed in the same trade, and from the same ports in the years 1821 and 1824. The progressive and rapid increase of trade between the eastern ports and Albany during the periods above noted, it is believed, will

not be interrupted, and that any improvements tending to a cheaper and readier intercourse than now exists, will add greatly to their mutual prosperity.

Some explanatory remarks are added to the statements contained in Schedule No. 1.

Schedule No. 2 exhibits the nature and extent of trade carried on between Albany and the eastern sea ports, so far as it was practicable to ascertain the same.

The information embraced in the table, has been collected with great care, by Mr. E. W. Whiting, who is supported in his belief of its general accuracy, by the opinions of the most intelligent of our citizens engaged in the trade.—Mr. Davis, of the firm of Davis & Center, to whom you particularly referred me for information, as he had long been engaged in the coasting business, between this city and Boston, has examined and approved the statement of Mr. Whiting. It is proper to remark, that schedule No. 2, refers entirely and exclusively to articles imported and exported in *eastern vessels*, and does not include any merchandize conveyed by our tow-boats and other river craft in the indirect trade between Albany and Boston. I am informed that at least one quarter should be added to the amounts specified in schedule 2, to cover this branch of trade. For several years a line of regular packets, owned by Messrs. Davis & Center, plyed between this city and Boston. These vessels have recently been purchased by Mr. T. B. Bigelow, of Troy, who continues them in the same trade, from the latter place and Albany. The tonnage of these vessels amounts to 446 tons, and they make during the season, seven trips each, to and from Boston.

The export cargoes to Boston consists of flour, pork, lard, butter, cheese, ashes, whiskey, staves, domestic goods, marble, corn and wool. About ten thousand barrels of flour, and four hundred thousand pounds of wool were exported to Boston in this line during the last year. The return cargoes from Boston consist of all kinds of merchandize. The average number of tons carried in the outward or Boston trips, is from ninety to one hundred tons, and the average return cargoes about seventy-five tons.

The usual time of passage to or from Boston, varies from 7 to 8 days; and the average price of freight per ton, is about three dollars, excepting the article of wool, which is charged at the rate of $\frac{7}{8}$ of a cent per pound. For the above

SCHEDULE No. 2.

A Statement of the Imports and Exports between Albany and Boston, and the ports intermediate.

New-Haven.	Tons weight.	Hartford.	Tons weight.	Newport, Bristol, Kingston, Warren, and Providence.	Tons weight.	Taunton & Fall River.	Tons weight.	Wareham.	Tons weight.	New-Bedford.	Tons weight.	Boston.	Tons weight.
Imports.		*Imports.*		*Imports.*		*Imports.*		*Imports.*		*Imports.*		*Imports.*	
None of consequence.		None of consequence.		1000 hhds. molasses.	500	Hollow-ware, ...	100	Hollow-ware,.....	160	1000 barrels whale oil, ...	125	Iron, various kinds,.....	250
				1000 bbls. gin,.....	133	Iron, various kinds, ...	100	Nails, ...	150			2500 bbls. fish oil,.....	300
				1500 casks lime, ...	202	Nails,.....	100	Iron, various kinds, ...	50			10000 quintals fish, ...	500
												10000 bbls. fish, ...	1300
												24000 bushels salt.....	535
												Nova Scotia plaster, ...	250
												10000 boxes herring, ...	70
												10000 dry hides, ...	111
												Of articles furniture, liquors	
												dry-goods, crates, glass,&c	2400
												1000 bbls whale oil.	125
												300 hhds. rum, ...	150
												Molasses, 200 hhds.	100
Exports.		*Exports.*		*Exports.*	835	*Exports.*	300	*Exports.*	260	*Exports.*	125	*Exports.*	6091
4000 bunches shingles,...	267	800 M. staves,.....	400	4000 bbls flour, ...	357	500 bbls. flour,.....	45	Iron ore,.....	200	12000 barrels flour, ...	1071	23500 bbls. flour, ...	2098
5000 barrels flour,.....	446	150 M. maple, cherry, ash,		80000 bushels grain, ...	1785	600 bushels grain, ...	14	Scrap iron,.....	100	800 barrels pork,.....	100	200000 bushels grain, ...	6473
1000 barrels whiskey,....	133	white-wood lumber, ...	225	Lumber, various kinds,...	120	Iron ore and old iron, ...	150	1000 bbls. flour,.....	89	200 M. staves,.....	60	Various kinds of lumber,	
100 M. staves,.....	200			2000 bbls. whiskey,.....	270			4000 bushels grain,.....	89			viz. cherry, maple, ash,	
150 M. cherry, ash, maple				Beef, pork, butter, cheese,	100							and white-wood, ...	200
and white-wood lumber,	225											Staves, 1 million,.....	3500
	1271		625		2632		209		478		1131		12271

The above is collected from the best authority in this city. Many articles are necessarily omittted.

E. W. WHITING.

Albany, June 6, 1828.

statement, I am indebted to the estimates of Mr. Davis and Mr. Bigelow.

Schedule No. 3, contains a brief statement of the trade on the Erie and Lake Champlain canals, together with the amount of the upward and downward frieghts. This schedule was prepared by J. Alexander, Esq., who informs me that the papers at the Comptroller's office, which he has examined, do not enable him to specifiy the different articles shipped on the canals. Indeed at the last session of our legislature, in reply to a resolution of the Senate, the canal board stated, that "*the entries at the collectors' offices, do not specify fully and separately the amount of the various kinds of property cleared at them respectively;*" and they therefore had not "the means of furnishing the desired information." The rates of toll established by the canal board, and annexed to schedule 3, when compared with the statement of Mr. Alexander, may enable you to form some opinion as to the kinds and description of property transported on the canals.

Schedule No. 4, presents an estimate of the quantity or value of domestic dry-goods sold in this city during the last year. The opinion of Mr. Delavan is the result of particular inquiries, among the most extensive dealers in the articles; and although he could not resort to any *data* by which to test its accuracy, it is thought to be sufficiently correct as the basis of any practical calculations.

Schedule No. 5, contains a statement of the number of breweries, and the quantity of malt liquor brewed yearly in the city of Albany. As large quantities of this article are manufactured for exportation, and much of it for the eastern market, it was deemed advisable to refer to its extent, in reply to that part of your letter in which you request me to communicate "any information that I may think useful in your undertaking." The statement is accurate; as it has been procured by G. Hawley, Esq. from the manufacturers.

Schedule No. 6, exhibits a statement of the quantity of marble brought from the eastern quarries to the Albany market, together with the price of transportation, &c.

N. B. Since preparing my reply to your letter, I have ascertained that the gentleman who was to furnish the information intended to be embraced in schedule No. 6, has neglected to attend to the subject. I am compelled therefore to omit it. It may be proper to remark, however, that the quantity of eastern marble used in this city, is daily increas-

ing, and that with the advantage of a rail-road conveyance to cheapen transportation, it would soon become a valuable article of trade.

Schedule No. 7, exhibits a very interesting table, in which the number of steam-boats and post-coaches, and also the number of travellers arriving at and departing from Albany, by means of public conveyances, are minutely stated. Mr. Aaron Thorp, who has long been a principal proprietor in extensive lines of stages, has devoted considerable time in preparing this schedule. Mr. Thorp mentions, that it does not include those passengers who arrive and depart in the steam-boats, which occasionally visit Albany, but do not belong to any regular line. In addition to this, no note is taken of the multitude of travellers who use private conveyances.

Although the aggregate of travellers may appear greatly disproportioned to the size of Albany, which probably does not contain a population varying much from 20,000 inhabitants, yet when its peculiar situation is considered, it will be at once perceived, that it is, and must continue to be, one of the greatest thoroughfares of the country. Since the receipt of your letter, I have had the pleasure of seeing George Bond, Esq. a member of your board. Mr. Bond directed my attention to the same subjects of inquiry, and particularly the measures adopted with regard to the Albany and Schenectady rail-road. I perceive that the company has recently been organized, by the appointment of directors, whose characters afford every assurance of successful efforts in their enterprize. I am not informed, with regard to the nature of their plans for constructing the road, nor the particular route (if one has been chosen) through which it will pass. The public belief is, that the work will be soon commenced, and prosecuted with vigor. The charter requires that its eastern termination shall be *within the city of Albany, or within half a mile of its northern boundary.* Whenever I am able to communicate any particular information respecting it, I will write you again. Immediately after the receipt of your letter, I communicated your wishes to Messrs. Tibbits and Wiswall, and requested them to procure such information respecting the commerce of our neighboring cities and villages, as would satisfy your inquiries. I have not as yet been furnished with full answers from either. I annex a copy of a letter, received from Mr. Tibbits, but shall request those gentlemen to forward to you full statements, whenever they

have prepared them. Some portion of the information herewith communicated, may perhaps be deemed superfluous, but I rather chose to present you with all the facts, collected by our committees, and leave to your own judgment the selection of those deemed important, than by attempting to abridge their number, and run the risk of giving you an unsatisfactory answer. I shall be at all times happy to extend my aid in furtherance of the great project to which your state is now directing its attention.

With great respect,

I have the honor to be,

Your ob't. serv't.

EBENEZER BALDWIN.

SCHEDULE No. 4.

To Ebenezer Baldwin, Esq.

Dear Sir—It was made my duty, by a late meeting of citizens, to inquire and report the quantity of domestic dry goods, now received and vended in this city: the object of the information being, to shew as near as practicable, the present state of the trade of Albany with Boston and other eastern places. From the best information I have been able to obtain, it is my belief that the amount at this time vended of domestic dry goods in this city, exceeds half a million of dollars per annum, and that the amount is susceptible of increase full *four fold.*

While Albany stands unrivalled in its wholesale hardware establishments, it is admitted on all hands that there is a great deficiency in wholesale dry good houses. I consider that Albany, at this time, presents a flattering opening for at least *twelve wholesale dry good establishments,* of the most extensive kind, that could sell almost any desirable quantity of goods profitably. It is now a common remark, I understand, with our western merchants, that could they be as well supplied with dry goods, in all their branches, as they now are with hardware, crockery and groceries, they would have no occasion to go elsewhere. As the information sought has a direct reference to the contemplated Boston and Hudson rail-road, it may not be out of place to remark, that when this great work shall be completed, that the trade between this

city and the east must be increased beyond calculation.—The trade then will be *direct*, instead, as it now is, in a great measure through New-York. The purchaser and seller will be then brought together, and an immense saving will be made in the way of commissions, &c. &c. which now clog the trade as it passes through the hands of commission merchants in New-York. It is out of my power to state even the probable amount of domestic goods which are transshipped here to the north and west; the amount must be vast: we know that from to canal boats leave our basin loaded with assorted cargoes; and it is very reasonable to suppose that a very considerable proportion of such cargoes are of domestic origin; and when the great Ohio canal shall be in full operation, and other canals now completing and contemplated in our own state are finished, the mind can hardly conceive the amount of property that will naturally pass from our canal to the rail-way, and from the rail-way to the canal.

I am, dear Sir, truly yours,

EDWARD C. DELAVAN.

SCHEDULE No. 1.

STATEMENT of the number of vessels (with the amount of tonnage) employed in the trade between Albany and the eastern ports, as taken from the books of Mr. Edward Brown, dock-master, for the year 1827.

WHERE OWNED.	No. vessels paying daily dockage.	No. vessels paying dockage by season.	Total.	Tons of daily.	Tons of season.	Total.
Boston, Mass.	6	3	9	467	323	790
Westport, Mass.	1		1	45		45
North-Kingston, R. I.	2	3	5	67	162	229
Newport, R. I.	6	5	11	294	257	551
Yarmouth, Mass.	2	1	3	95	42	137
Dennis, Mass.	5	7	12	280	343	623
New-Bedford, Mass.	6	3	9	358	207	565

Nantucket, Mass.	5	2	7	278	82	360
Lyme, Conn.	1		1	46		46
Freetown, Mass.	1	1	2	40	35	75
Saybrook, Conn.	1	2	3	34	137	171
Dartmouth, Mass.	2	1	3	111	28	139
New-London, Conn.	2	1	3	52	43	125
Bristol, R. I.	2	1	3	100	34	134
Darien,	1		1	46		46
Taunton, Mass.	2		2	103		103
Providence, R. I.	5	3	8	287	130	417
Falmouth, Mass.	5		5	199		199
Killingworth, Conn.	1		1	60		60
Glastenbury, Conn.	1		1	26		26
Sandwich, Mass.	2		2	146		146
Norwich, Conn.		2	2		116	116
Chatham, Mass.	3	2	5	232	98	330
Wareham, Mass.	4		4	179		179
Stafford,	1	1	2	50	58	108
Tiverton, Mass.			1		56	56
Middletown, Conn.	2		2	143		143
Warren, R. I.	3		3	103		103
Islip, Mass.	2		2	66		66
Bass River, Mass.	1		1	38		38
Barnstable, Mass.	2	2	4	74	155	229
Cohasset, Mass.	1		1	36		36
Somerset, Mass.		1	1		70	70
Gloucester, Mass.	2		2	103		103
Marblehead, Mass.	1	1	2	50	80	130
Weymouth, Mass.	1		1	78		78
	80	43	123	4250	2456	6706

The principal articles brought in the above vessels, are salt, fish, oil, nails, castings, factory goods, molasses, N. E. rum, sugar, glass, rolled iron, &c. A very large portion of goods brought from the eastern ports to the Albany market, are transshipped from eastern vessels at the city of N. York, into the river craft, or sold and re-purchased at the latter place. The above estimate does not include that branch of trade. Forty-three of the above enumerated vessels, pay dockage by the season, as regular traders. Their number of trips would probably average five in the season. Multiplying, therefore, that number by the tonnage, viz. 2,456,

would give as a result, 12,280 tons. Those vessels paying daily dockage, average about two trips in the season: multiplying the quantity of tonnage by that number, would give 8,500, which added to 12,280, makes the aggregate of tonnage for imports 20,780, or for coming and returning trips, 41,560 tons.

In the year 1821, as appears from the dock-master's books, forty-one vessels only, belonging to the places specified in the preceding table, visited Albany. Twenty-eight paid daily dockage, and thirteen paid by the season. The tonnage of those paying daily dockage, amounted to 1,274, and those paying by the season, to 484 tons. Computing the number of trips, and multiplying as has been done, to produce the result in the year 1827, the whole tonnage for coming and return trips in 1821, was 9,936 tons.

In the year 1824, fifty-nine vessels, from the same ports, were employed in the Albany trade, of which *seventeen* paid dockage by the season, and forty-two by the day; the tonnage of those paying by the season being 935, and of those paying daily, 1,863 tons. By adopting the same mode of ascertaining the aggregate tonnage for coming and return passages in this year, as in 1821, it appears that it amounts to 16,802 tons. The following estimate, therefore, exhibits the tonnage of eastern vessels in the Albany trade, in the years 1821, 1824 and 1827:

In the year	1821,.....	9,936 tons.
"	1824,.....	16,802 "
"	1827,.....	41,560 "

EBENEZER BALDWIN.

SCHEDULE No. 3.

12,220 canal boats arrived at and departed from Albany in the season of 1827.

The following is the amount of freight:

					Tons.	*Cwt.*	*Qrs.*
Am't of down freight, at	1½	cent	per	ton, ..	79,764	1	3
do	do 1	"	"	..	4,596	8	3
do	do ½	"	"	..	15,448	11	1
do	do 3	"	"	..	102	15	1
					99,911	17	0

Down Freight.

Wood, cords of,	13,949
Timber, feet of,	45,169
Shingles, thousands,	7,096
Lumber, feet of,	23,231,320

Amount of Up Freight.

				Tons.	*Cwt.*	*Qrs.*
Up freight at	1½	cent	per ton,	1,114	11	0
do	1	"	"	1,246	6	3
do	½	"	"	1,317	19	1
do	3	"	"	22,227	15	1
				25,906	12	1

The amount of tolls and penalties received by the collector in the city of Albany in the year 1827, was $151,840.58.

SCHEDULE No. 5.

EBENEZER BALDWIN, ESQ.

Dear Sir—Mr. Robert Boyd, of this city, who is one of our chief brewers, has, on application to him for that purpose, politely furnished the following information. The number of barrels of ale brewed annually in the city of Albany, is 40,000. The bushels of malt manufactured, is 150,000. The bushels of barley purchased at this market, 200,000.

30,000 barrels of ale are annually sold out of the city.
25,000 bushels of malt " "
50,000 " barley " "

The ale sent out of the city is sent to different parts of this state and the United States.

Respectfully,
Your ob't. serv't.
GIDEON HAWLEY.

Albany, June 10th, 1828.

SCHEDULE No. 7.

Steam-Boats.

List of steam-boats that ply between Albany and New-York, regularly.

Constitution, Constellation, Chief Justice Marshall, North America, Philadelphia, Albany, Victory, Sandusky, Swiftsure, Eckford, Commerce, Independence.

The arrivals and departures of the above named boats, equal ten per day, during the season, (Sundays excepted,) and the season is computed at nine months, at twenty-seven days per month. The whole number of passengers who arrive at and depart from Albany during a season, amounts to *one hundred and sixty five thousand.* The number per month (27 days,) is eighteen thousand three hundred and thirty-three; and the number per day six hundred and seventy-five, ... 675

N. B.—Seventeen tow-boats or barges are attached to the steam-boats Swiftsure, Eckford and Commerce, the passengers of which are included in the above estimate.

Canal Boats.

The average number of passengers arriving and departing per day in the western and northern canal boats, is, ... 150

Stages,

	No.	Aver. No. Passen.	
That arrive and depart per day, west,	34	248	
do do do east,	10	95	
do do do north, (exclusive of Troy, Lansingburgh and Waterford.)	12	84	
Troy, Lansingburgh and Waterford,	44	325	
Delaware and Schoharie, ...	2	12	
Southern, ...	1½	12	
			776
Arriving and departing per day, ...	103½		
Passengers per day, ...			1601

Aggregate of Passengers arriving and departing in Steam-Boats, Canal Boats and Stages, during the year.

Passengers	by steam-boats per year,.....	165,000
do	by canal-boats, computing the season 9 months, and a month at 27 days....	36,450
do	by stages, 365 days, at 776 per day,..	283,240
	Total,....	484,690

The above aggregate would be greatly increased if it was practicable to estimate and add thereto the number of those travellers who arrive and depart in sloops, wagons, private carriages, on horseback, &c.

Erratum.

Page 16, line 2d, in the Postscript, for "500 tons," read "520 tons."

Aggregate of

Imports.		*Exports.*	
New-Haven,		New-Haven, N. London and Norwich,	1,271
Hartford,		Hartford,	625
Newport, Bristol, Warren and Providence,	835	Newport, Bristol, &c.	2,632
Taunton and Fall River,	300	Taunton and Fall River,	209
Wareham,	260	Wareham,	478
New-Bedford,	125	New-Bedford,	1,131
Boston,	6,091	Boston,	12,271
Tons,	7,611	Tons,	17,617